

CONTENT ADDRESSABLE MEMORY ARRAY HAVING
FLEXIBLE PRIORITY SUPPORT

Michael J. Miller

Mark Baumann

ABSTRACT

A method for processing addresses having variable prefix lengths, including (1) applying an input address to a plurality of CAM blocks; (2) assigning different sets of CAM blocks to store prefixes of different lengths; (3) generating a hit signal and an index signal with each of the CAM blocks in response to the input address; (4) programming a plurality of routing values; (5) routing the hit signals to a priority encoder in an order determined by the routing values; (6) generating an output hit signal with the priority encoder in response to the hit signals; (7) selecting one of the routing values as an index routing value in response to the output hit signal; and (8) routing one of the index signals as an output index value in response to the index routing value. Circuitry for implementing the method is also provided.